APPENDIX B

Hunters Pond Dam Removal Engineering Drawings
& Plan Set

HUNTERS POND
DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

GENERAL NOTES:

1. THE APPROVAL AND USE OF THESE PLANS ARE FOR THE PROJECT APPLICANT AS DEPICTED ON THIS SHEET. THIS PLAN IS NOT TO BE UTILIZED IN THE PREPARATION OF ANY OTHER PROJECTS.

2. AS FIELD CONDITIONS MAY REQUIRE FIELD MODIFICATION AND MINOR CHANGES TO PROPOSED CONDITIONS, THESE PLANS ARE NOT TO BE UTILIZED AS AS-BUILTS.

3. THESE PLANS ARE NOT TO BE UTILIZED FOR CONSTRUCTION, UNTIL ALL REQUIRED LOCAL, STATE, AND FEDERAL PERMITS ARE OBTAINED.

4. THE MORDECAI LINCOLN MILL, MILL CULVERT/RACEWAY, MORDECAI LINCOLN ROAD DAM, AND MORDECAI LINCOLN ROAD BRIDGE ARE HISTORIC PROPERTIES AS DEFINED UNDER THE NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED (NHPA). NO WORK DEVIATING FROM THE PROJECT PLANS AND SPECIFICATIONS SHALL OCCUR THAT ALTERS, DISTURBS, OR OTHERWISE IMPACTS THESE RESOURCES, UNLESS APPROVED BY THE PROJECT ENGINEER.

CONSTRUCTION NOTES:

1. ALL MATERIALS SHALL CONFORM TO THE LATEST AMERICAN STANDARDS FOR TESTING AND MATERIALS SPECIFICATIONS (ASTM).

2. UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

3. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS. ANY DAMAGE TO EXISTING SERVICES OR MAINS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S OWN EXPENSE.

4. EXCAVATIONS AND STOCKPILES IN NO WAY SHALL HAVE SLOPES STEEPER THAN 2:1.

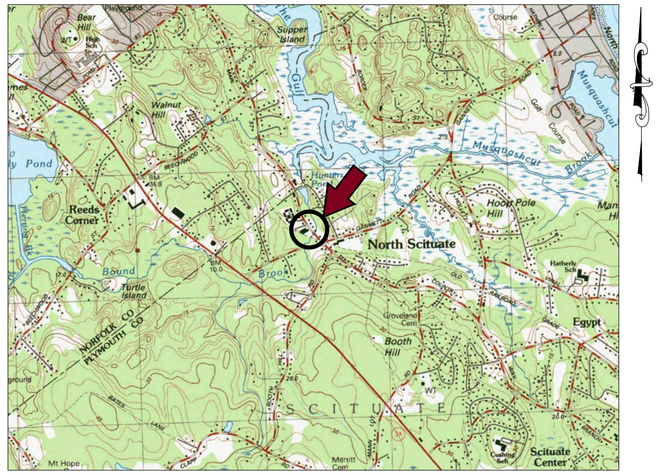
5. THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL APPLY.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ROADS, CURBS, FENCES, SIGNS, STRUCTURES, VEGETATION, IRRIGATION, LANDSCAPING COMPONENTS, AND ANY OTHER PROPERTY ITEMS THAT ARE REMOVED OR DAMAGED FOR THE PURPOSES OF THE PROJECT LOGISTICS AND ACCIDENTS.

CONSTRUCTION SAFETY AND SECURITY:

1. ALL CONSTRUCTION SHALL ADHERE TO OSHA STANDARDS AND REGULATIONS.

1 PROJECT SITE LOCATION
2008 AERIAL PHOTOGRAPH



2 PROJECT VICINITY
7.5 MINUTE SERIES USGS QUADRANGLE
COHASSET, MA

SHEET INDEX:

PROJECT OWNER:

TOWN OF SCITUATE
DEPARTMENT OF PUBLIC WORKS
600 CHIEF JUSTICE CUSHING HIGHWAY
SCITUATE, MA 02066
781-545-8731

PROJECT PARTNERS AND FUNDERS:

TOWN OF SCITUATE

NOAA RESTORATION CENTER

UNITED STATES FISH AND WILDLIFE SERVICE

MASSACHUSETTS EOEEA DAM AND SEAWALL REPAIR OR REMOVAL PROGRAM

MASSACHUSETTS DIVISION OF ECOLOGICAL RESTORATION

MASSACHUSETTS OFFICE OF COASTAL ZONE MANAGEMENT

CORPORATE WETLANDS RESTORATION PARTNERSHIP

MASSACHUSETTS BAYS NATIONAL ESTUARY PROGRAM

NATIONAL FISH AND WILDLIFE FOUNDATION

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PROJECT NOTES

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3. DATA REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83), STATE PLANE MASSACHUSETTS, FEET. VERTICAL DATUM NORTH AMERICAN VERTICAL DATUM OF 1988, FEET.

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7. WATER MAIN RELOCATION PLAN AND DETAILS PROVIDED BY WESTON & SAMPSON, IN COORDINATION WITH INPUT FROM THE TOWN OF SCITUATE.

DATE	DESCRIPTION
3/1/2017	REVISED PER PERMIT CONDITIONS
1/5/2017	REVISED PER REGULATORY COMMENTS
11/30/2016	REVISED PER USACE COMMENTS
11/9/2016	REVISED PER CLIENT COMMENTS
7/11/2016	REVISED PER CLIENT COMMENTS
6/24/2016	REVISED PER CLIENT COMMENTS

REVISIONS

GEOFFREY M. GOLL
Professional Engineer
MA Lic. No. 48283

DATE

PRINCETON HYDRO, LLC
SCIENTISTS AND ENGINEERS
1108 OLD YORK ROAD, SUITE 1
P.O. BOX 720
RINGOES, NEW JERSEY 08551
PHONE. 908.237.5660
FAX. 908.237.5666
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:

HUNTERS POND DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

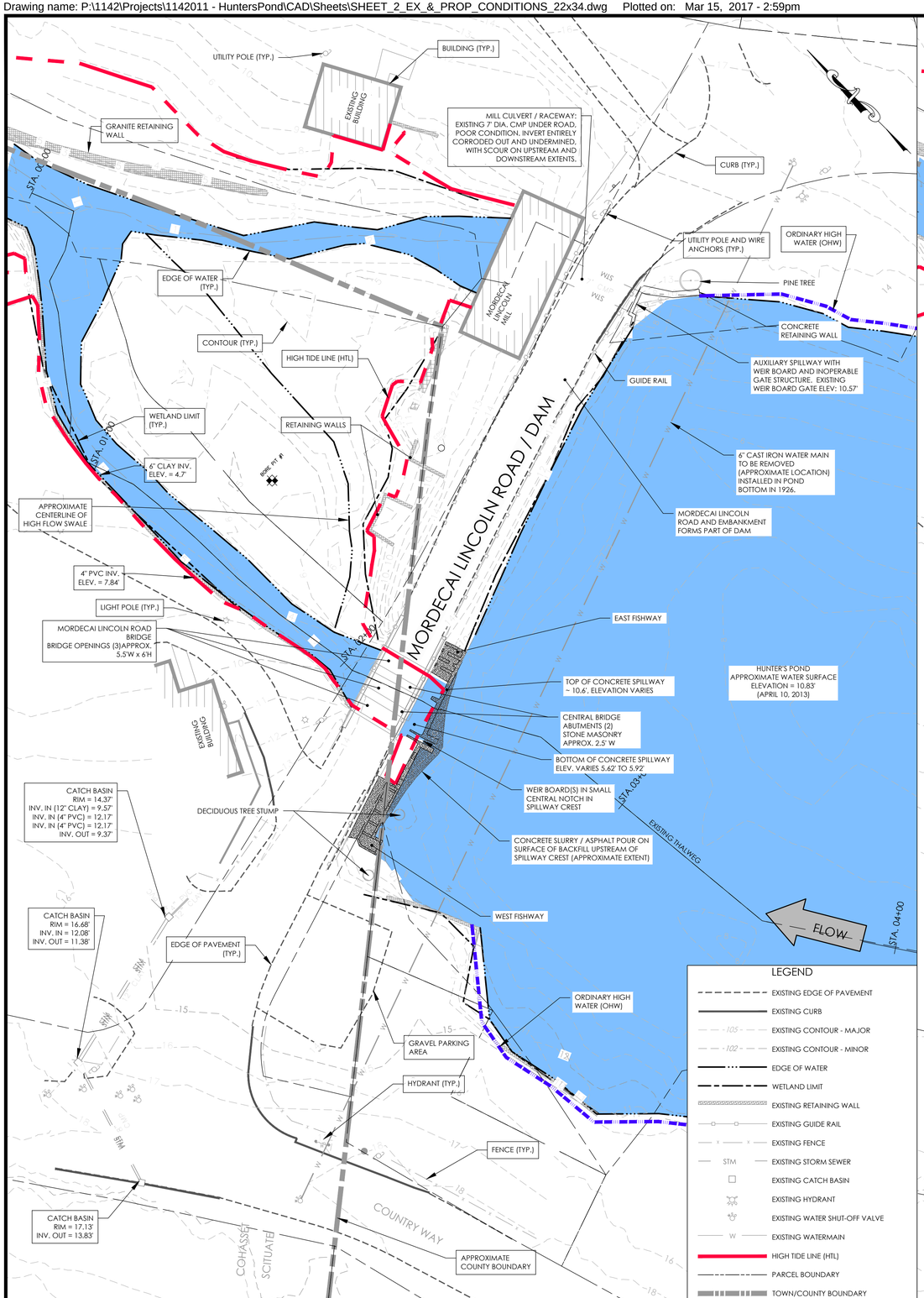
DRAWING NAME:

TITLE SHEET

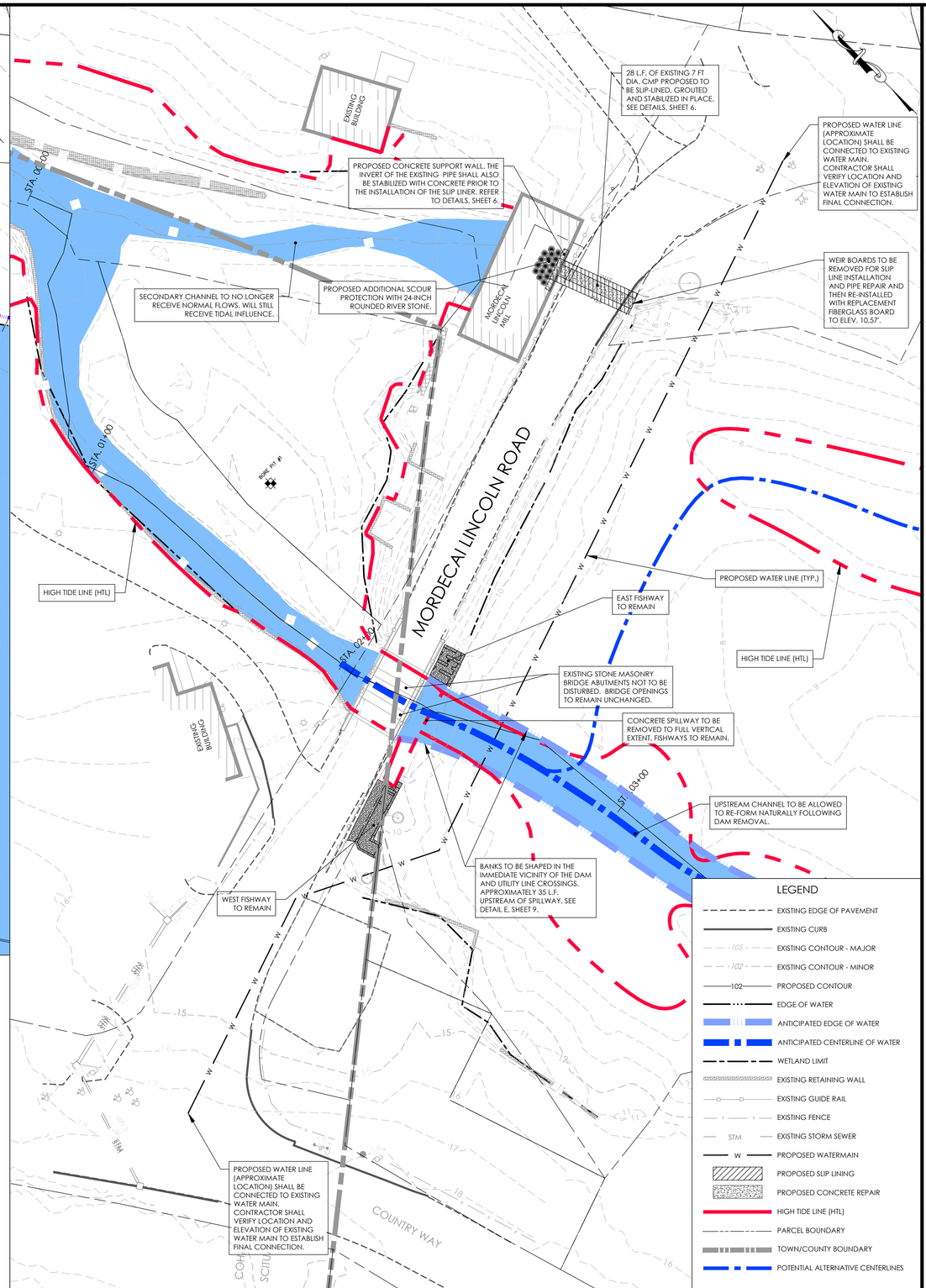
DATE:	11/30/2016
PROJECT NO.:	1142.001
SCALE:	AS SHOWN
DRAWN BY:	AEM/DTK/STB
CHECKED BY:	LASW/PMW

SHEET NO.

1 OF 9



1 EXISTING CONDITIONS PLAN



2 PROPOSED CONDITIONS PLAN

GRAPHIC SCALE
0 5 10 15 20 40 60 80 FEET

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1/5/2017	REVISED PER REGULATORY COMMENTS
12/2/2016	REVISED PER USACE COMMENTS
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REVISIONS

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Professional Engineer
MA Lic. No. 48283

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PHONE. 908.237.5660
FAX. 908.237.5666
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
HUNTERS POND DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

DRAWING NAME:
EXISTING AND PROPOSED CONDITIONS PLAN

DATE:	12/2/2016
PROJECT NO.:	1142.011
SCALE:	AS SHOWN
DRAWN BY:	AEM / DTK / STB
CHECKED BY:	LASW / PMW

SHEET NO.
2 OF 9

Jurisdictional Area	Direct Effects	Secondary Effects	Permanent Effects	Temporary Effects
Area below OHW	0.04 acres *Spillway removal; Culvert slip-lining; Waterline replacement*	None	- 1.71 acres *Change as the river narrows from impounded to free-flowing riverine conditions*	0.41 acres / 56 CY *Minor mechanical dredging and swamp mat placement. Sandbag cofferdam for waterline replacement.*
Non-Tidal Wetlands	None	None	+2.11 acres *Increase in floodplain wetlands due to impoundment conversion to free-flowing conditions*	0.49 acres *Potential impact during temporary impoundment drawdown*
Area below HTL (Tidal Wetlands)	0.002 acres / 10 CY *Riprap placement for culvert slip-lining*	0.14 acres *Sediment release and beneficial downstream redistribution in Bound Brook*	+0.69 acres *Increase in tidal wetlands due to impoundment conversion from freshwater to brackish*	0.005 acres / 22 CY *Sandbag cofferdams at mill building*

EXISTING HIGH TIDE LINE (HIGHEST ASTRONOMICAL TIDE) ELEVATION INTERCEPTS AT DAM / SPILLWAY. (TYP.)

EXISTING CULVERT / RACEWAY TO BE REPAIRED

EXISTING SPILLWAY

CROSS-SECTION LOCATION AND IDENTIFICATION (TYP.)

APPROXIMATE LIMIT OF EXPOSED IMPOUNDED SEDIMENT DELTA AND ADJACENT VEGETATED WETLAND

ADJACENT VEGETATED WETLAND (TYP.)

EXISTING ORDINARY HIGH WATER (OHW)

INLAND BANK LIMIT (TYP.)

1 EXISTING CONDITIONS

EXISTING HIGH TIDE LINE (HTL) UNCHANGED BELOW SPILLWAY AFTER REMOVAL (TYP.)

EXISTING CULVERT / RACEWAY TO BE REPAIRED

PARCEL BOUNDARIES

PROPOSED HIGH TIDE LINE (HIGHEST ASTRONOMICAL TIDE) ELEVATION ENTERS FORMER IMPOUNDMENT. (TYP.)

RIVERFRONT AREA LIMIT - 200' PROPOSED CONDITIONS (TYP.)

CROSS-SECTION LOCATION AND IDENTIFICATION (TYP.)

POTENTIAL ALTERNATIVE CHANNEL ALIGNMENTS / SECONDARY FLOWPATHS

SINGLE PRIMARY CHANNEL (POTENTIAL ALIGNMENT) (TYP.)

ADJACENT VEGETATED WETLAND, ANTICIPATED (TYP.)

PROPOSED ORDINARY HIGH WATER (OHW) INTERCEPTS WITH HIGH TIDE LINE IN FORMER IMPOUNDMENT

INLAND BANK LIMIT (TYP.)

2 PROPOSED CONDITIONS

LEGEND

- EXISTING CONTOUR - MAJOR
- EXISTING CONTOUR - MINOR
- WETLAND LIMIT
- ADJACENT VEGETATED WETLAND
- COASTAL BANK LIMIT
- SALT MARSH LIMIT
- BORDERING LAND SUBJECT TO FLOODING (BLSF) LIMIT (FEMA 100-YR FLOODPLAIN)

IMPACTED REGULATED AREAS

- INLAND BANK (EXISTING)
- INLAND BANK (PROPOSED)
- LAND UNDER WATER BODIES AND WATERWAYS (LUWW)
- RIVERFRONT AREA LIMIT
- MEAN HIGH WATER (MHW)
- HIGH TIDE LINE
- ORDINARY HIGH WATER (OHW)

GRAPHIC SCALE

0 10 20 30 40 80 120 160 FEET

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REVISIONS

GEOFFREY M. GOLL
Professional Engineer
MA Lic. No. 48283

DATE

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SCIENTISTS AND ENGINEERS
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P.O. BOX 720
RINGOES, NEW JERSEY 08551
PHONE. 908.237.5660
FAX. 908.237.5666
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:

HUNTERS POND DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

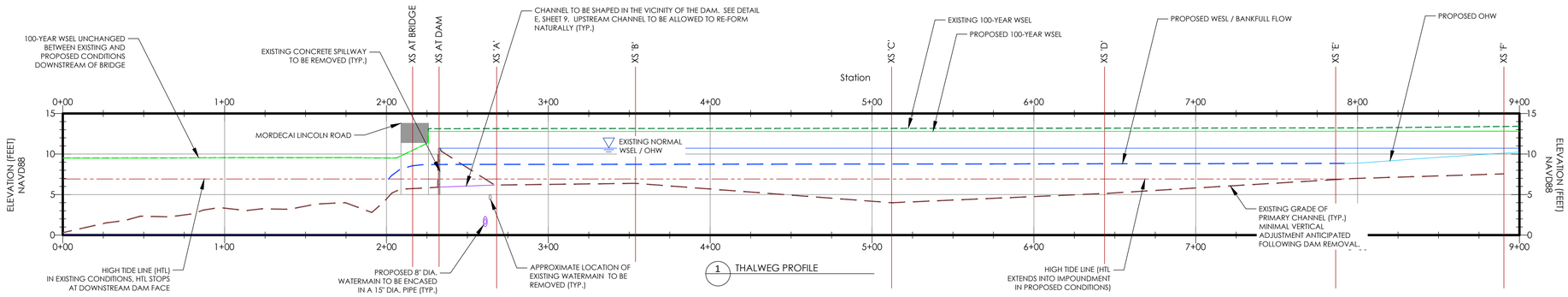
DRAWING NAME:

REGULATED AREAS PLAN

DATE:	12/2/2016
PROJECT NO.:	1142.011
SCALE:	AS SHOWN
DRAWN BY:	PW / DTK / STB
CHECKED BY:	LASW

SHEET NO.

3 OF 9



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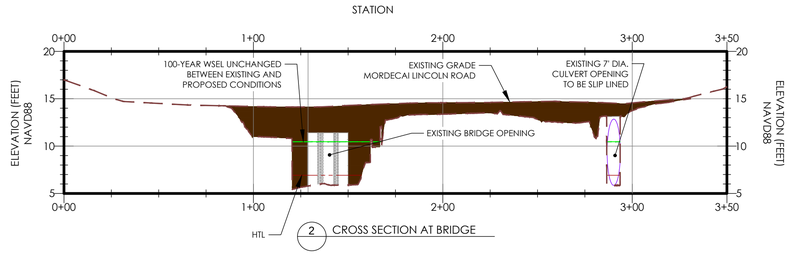

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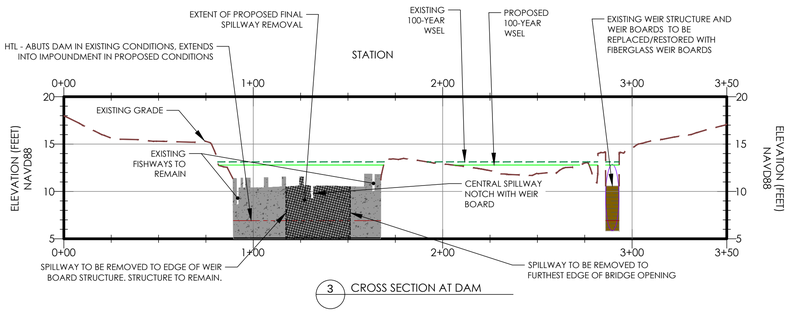

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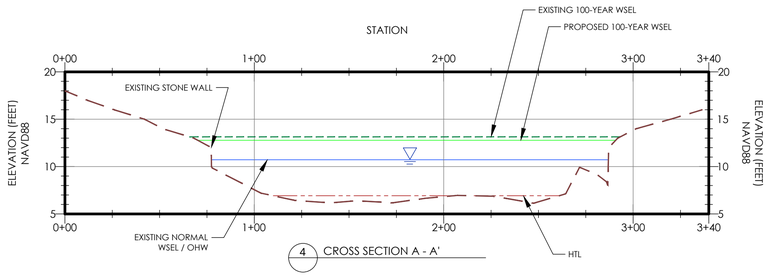
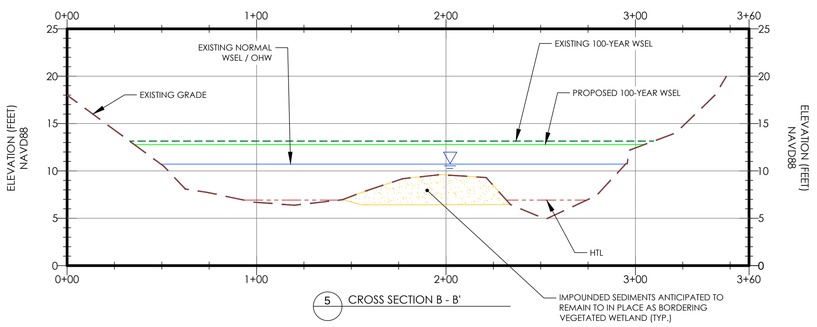


4 CROSS SECTION A - A'



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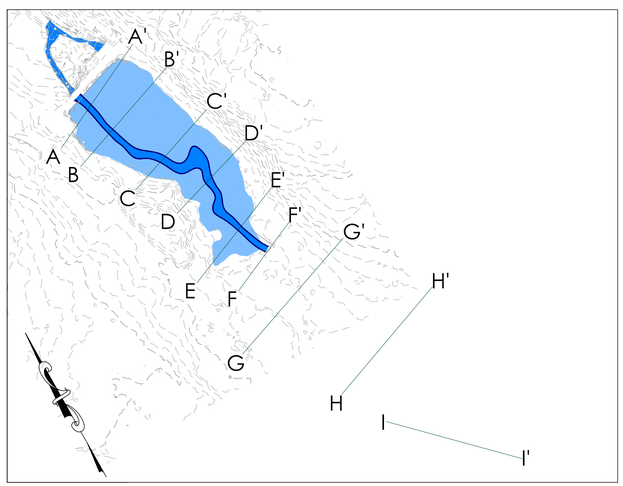

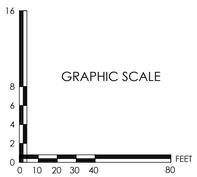

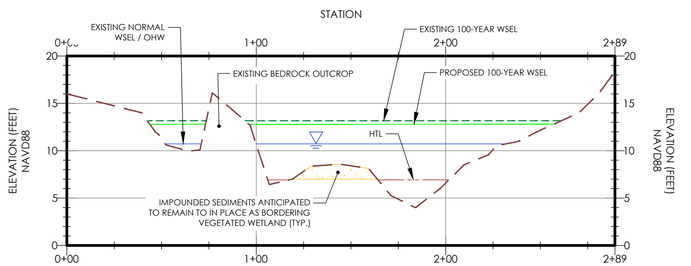

6 CROSS SECTION C - C'

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TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

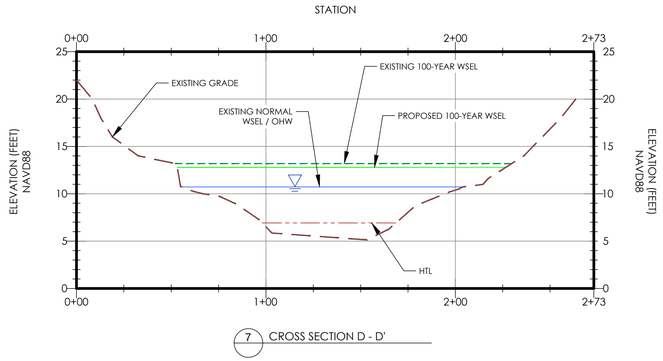
DRAWING NAME:

PROFILE & CROSS SECTIONS

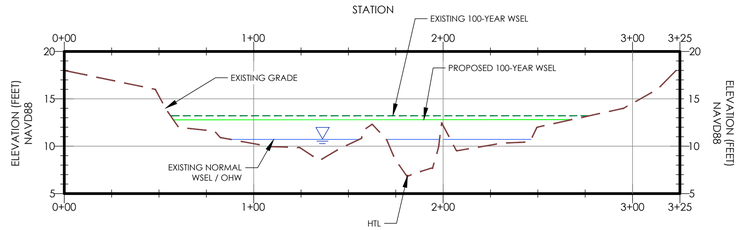
DATE:	12/1/2016
PROJECT NO.:	1142.011
SCALE:	AS SHOWN
DRAWN BY:	AEM / DTK / STB
CHECKED BY:	LASW / PMW

SHEET NO.

4 OF 9

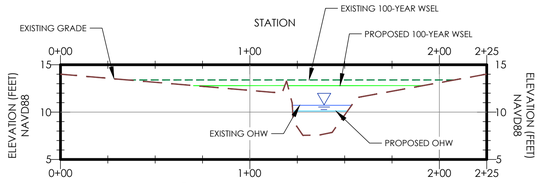


7 CROSS SECTION D - D'



8 CROSS SECTION E - E'

NO WORK PROPOSED AT THIS CROSS-SECTION OR UPSTREAM. MINIMAL CHANNEL CHANGES ANTICIPATED.



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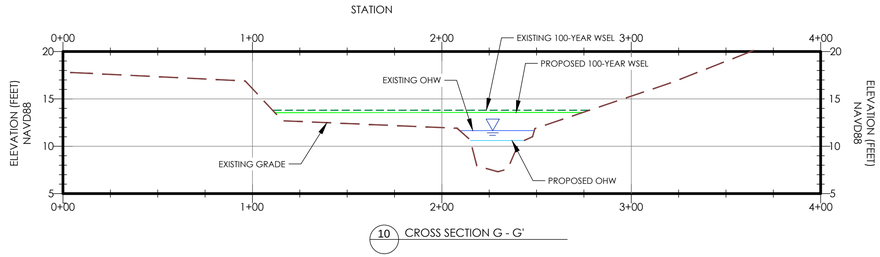

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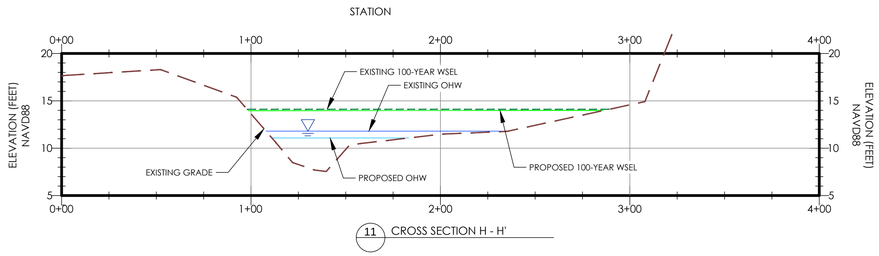
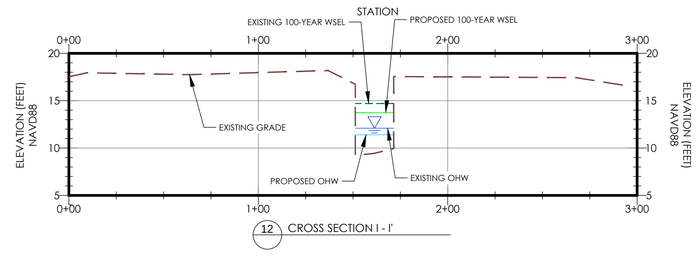
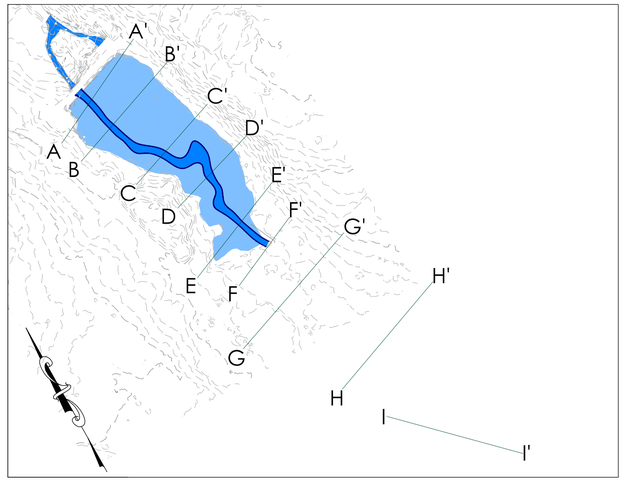
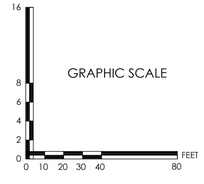


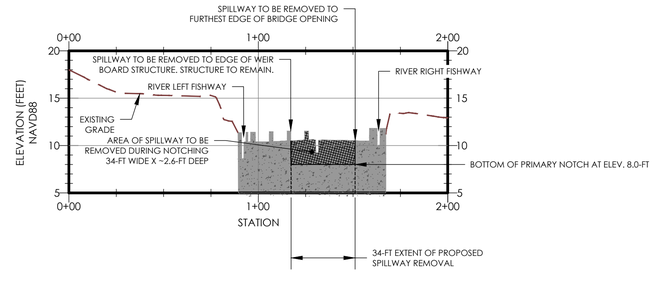
11 CROSS SECTION H - H'



12 CROSS SECTION I - I'







13 SPILLWAY NOTCHING

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PRIOR TO CONSTRUCTION - STOP CALL
REFERENCE 220 CMR 99.00
AND GL C. 82 SEC. 40-40E
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7. WATER MAIN RELOCATION PLAN AND DETAILS PROVIDED BY WESTON & SAMPSON, IN COORDINATION WITH INPUT FROM THE TOWN OF SCITUATE.

DATE	DESCRIPTION
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REVISIONS

GEOFFREY M. GOLL
Professional Engineer
MA Lic. No. 48283

DATE

PRINCETON HYDRO, LLC

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P.O. BOX 720
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PROJECT NAME/LOCATION:

HUNTERS POND DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

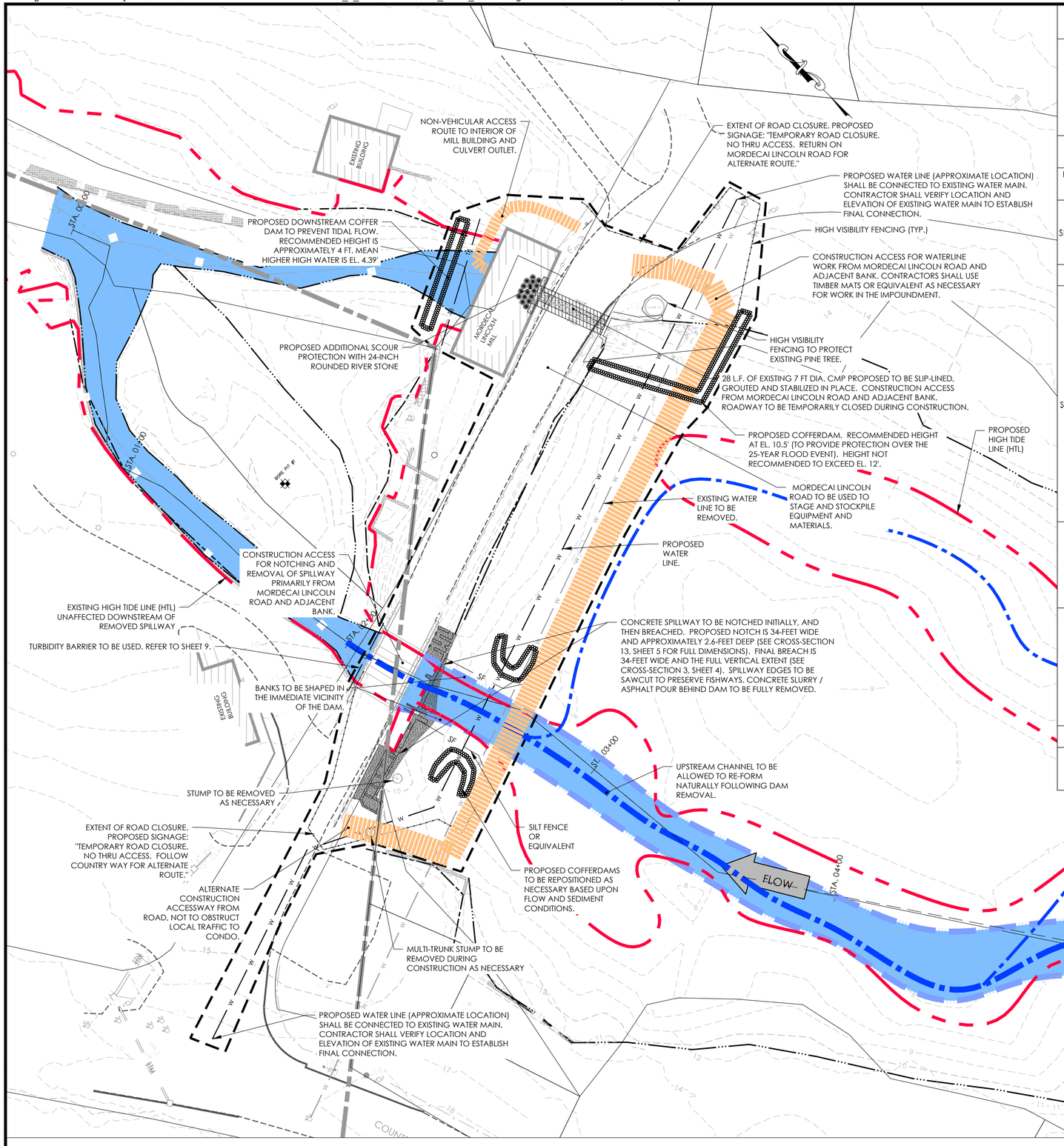
DRAWING NAME:

PROFILE & CROSS SECTIONS

DATE:	12/1/2016
PROJECT NO.:	1142.011
SCALE:	AS SHOWN
DRAWN BY:	AEM / DTK / STB
CHECKED BY:	LASW / PMW

SHEET NO.

5 OF 9



GRAPHIC SCALE

0 5 10 15 20 40 60 80 FEET

1 PROPOSED CONDITIONS PLAN

CONSTRUCTION SEQUENCE

TIME OF YEAR RESTRICTION	--	TO AVOID IMPACTS TO EXISTING DIADROMOUS FISH SPECIES DURING SPAWNING AND JUVENILE MIGRATIONS, IN-WATER WORK MUST OCCUR OUTSIDE OF TIME-OF-YEAR RESTRICTIONS IN ACCORDANCE WITH PERMITS AND SPECIFICATIONS. THIS CONSTRUCTION SEQUENCE HAS BEEN MODIFIED (2017/01) SO THAT INITIAL PARTIAL SPILLWAY NOTCHING AND CULVERT SLIPLINING WORK CAN OCCUR FIRST, FOLLOWED BY THE REMAINING WATERLINE AND DAM WORK. INSTREAM CONSTRUCTION ACTIVITIES SHALL CEASE DURING HIGH FLOW CONDITIONS TO MINIMIZE RIVER HAZARDS.
CONSTRUCTION PREPARATION	1	VERIFY SLIP-LINER SIZE NEEDED AND ORDER ALL PRE-CAST NECESSARY SUPPLIES. ACCOUNT FOR ORDER AND DELIVERY TIMES.
MOBILIZATION & ROAD CLOSURE	2	FULL ROAD CLOSURE OF MORDECAI LINCOLN ROAD. INSTALL CONSTRUCTION WARNING SIGN, ROAD CLOSURE SIGNS AND BARRICADES AS NECESSARY FOR THE TEMPORARY CLOSURE OF MORDECAI LINCOLN ROAD.
E&S CONTROL AND HISTORIC PRESERVATION	3	INSTALL HIGH VISIBILITY FENCING TO PROTECT HISTORIC STRUCTURES AND LARGE PINE TREE ON UPSTREAM EASTERN BANK. INSTALL TURBIDITY CURTAIN DOWNSTREAM OF SPILLWAY. STAGE MATERIALS AND EQUIPMENT IN DESIGNATED AREA ON MORDECAI LINCOLN ROAD.
SPILLWAY NOTCHING	4	SPILLWAY TO BE NOTCHED WITH A PNEUMATIC HAMMER ATTACHMENT TO EXCAVATOR FROM MORDECAI LINCOLN ROAD. SHIFT SEDIMENT THAT IS IMMEDIATELY UPSTREAM OF SEDIMENT AWAY FROM NOTCH AREA AS FEASIBLE TO MINIMIZE DOWNSTREAM TRANSPORT. SPILLWAY TO BE PARTIALLY NOTCHED AS PER DETAIL. EXCAVATE, LOAD, HAUL AND DISPOSE OF CONCRETE AT A PERMITTED FACILITY. ALLOW IMPOUNDMENT TO PARTIALLY DEWATER AS MUCH AS FEASIBLE PRIOR TO INITIATING SLIP-LINING WORK.
SHUT OFF EXISTING WATER MAIN	5	EXISTING WATER MAIN TO BE SHUT OFF, OR CUT AND CAPPED IF NECESSARY, ON BOTH ENDS OF THE WORK ZONE.
SLIP-LINING CULVERT	6	CONSTRUCT TEMPORARY ACCESS ROAD ALONG UPSTREAM EASTERN BANK OF FORMER IMPOUNDMENT TO INITIATE SLIP LINER WORK, TAKING CARE NOT TO IMPACT THE LARGE PINE IN THIS AREA.
	7	INSTALL TEMPORARY COFFER DAMS AS NECESSARY TO COMPLETELY DEWATER WORK AREA AROUND GATE AND CULVERT FOR SLIP-LINER INSTALLATION. PUMP TO DEWATER POOL UNDER MIL BUILDING AS NEEDED FOR CONCRETE AND ARMORING WORK. HISTORIC OVERSIGHT NEEDED THROUGHOUT CULVERT WORK AND WORK BENEATH THE HISTORIC MILL BUILDING TO IDENTIFY ANY ADDITIONAL FEATURES ONCE THE SITE HAS BEEN DEWATERED AND TO ENSURE PROTECTION AND DOCUMENTATION OF HISTORIC STRUCTURES.
	8	REMOVE WOODEN WEIR BOARDS AT UPSTREAM END OF CULVERT.
	9	INSTALL REINFORCED CONCRETE SUPPORT WALL AT DOWNSTREAM END OF CULVERT AND FILL EXISTING 7 FOOT DIAM. CMP PIPE INVERT WITH CONCRETE, AS NEEDED TO FILL VOIDS AND CREATE A SUITABLE BASE FOR THE SLIP LINER. ALLOW FOR CURING TIME AS NECESSARY.
	10	PLACE RIVERSTONE STABILIZATION BY HAND AND/OR WALK-BEHIND MACHINERY WITHIN SCOUR HOLE AT DOWNSTREAM END OF CULVERT. ACCESS IS LIMITED.
	11	FIT TEST THE HDPE SLIP-LINER TO ENSURE PROPER INSTALLATION CLEARANCES. DETERMINE THE ACTUAL DIAMETER LINER TO BE INSTALLED DUE TO DEFORMITIES OF THE EXISTING PIPE. ACCOUNT FOR ORDERING AND DELIVERY TIME.
	12	INSTALL THE HDPE SLIP-LINER IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. ALLOW FOR GROUT / CONCRETE CURING TIMES AS NECESSARY.
	13	INSTALL FIBERGLASS WEIR BOARDS INTO EXISTING CHAMFERS.
	14	REMOVE CULVERT WATER CONTROLS ONCE CULVERT WORK HAS CURED.
FINAL SPILLWAY REMOVAL	15	INSTALL ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS NEEDED. SELECTIVELY REMOVE TREES AS NECESSARY (UNLESS OTHERWISE NOTED ON THE PLANS TO PROTECT) TO ACCESS SPILLWAY AND WATER MAIN WORK. INSTALL TURBIDITY CURTAIN ON DOWNSTREAM SIDE OF SPILLWAY.
	16	USING EXCAVATOR & HAMMER ATTACHMENT, REMOVE REMAINING PORTION OF SPILLWAY, SAW CUT TO FINAL DIMENSIONS AS PER DETAILS LEAVING THE FISHWAYS IN PLACE. EXCAVATE, LOAD, HAUL AND DISPOSE OF CONCRETE AT A PERMITTED FACILITY. GRADE CHANNEL BANKS IN VICINITY OF DAM AND BRIDGE.
WATER MAIN INSTALLATION	17	CONSTRUCT TEMPORARY WATERMAIN ACCESS ROAD AS NEEDED FOR EXISTING WATER MAIN PIPE REMOVAL AND TRENCHING FOR PLACMENT OF NEW WATER MAIN. USE TEMPORARY COFFER DAMS AND PUMP WATER AS NEEDED TO CONTROL WATER FOR TRENCHING AND INSTALLATION OF WATER MAIN IN FORMER IMPOUNDMENT AND UNDER NEWLY DEVELOPED UPSTREAM CHANNEL.
	18	REMOVE THE EXISTING WATER MAIN AND DISPOSE OF MATERIAL OFF SITE.
	19	INSTALL THE PROPOSED REPLACEMENT WATER MAIN AND SLEEVES AS PER DETAILS.
	20	CONNECT NEW WATER MAIN AT GATE VALVE LOCATIONS AND TURN WATER BACK ON TO CHECK SYSTEM BEFORE BACKFILLING AND REMOVING ACCESS ROUTE.
	21	FINALIZE CHANNEL DIMENSIONS AND SUBSTRATE WHERE UTILITY CROSSES UNDER STREAM AS PER DETAIL.
	22	REMOVE THE TEMPORARY ACCESS ROUTE THROUGH THE DEWATERED IMPOUNDMENT AS WORK ON THE WATER MAIN AND SPILLWAY ARE COMPLETED.
SITE RESTORATION	23	BACKFILL, PATCH, AND RE-PAVE ROADWAY WHERE NECESSARY.
	24	APPLY SEED AND MULCH TO ANY DISTURBED SOILS.
DEMOBILIZATION	25	CONDUCT FINAL WALK THROUGH WITH ENGINEER, HISTORIAN, AND CLIENT. COMPLETE ALL ITEMS ON FINAL WALK THROUGH CHECKLIST. ONCE SITE HAS BEEN STABILIZED, REMOVE HIGH VISIBILITY FENCING AND TEMPORARY EROSION & SEDIMENTATION CONTROLS. DEMOBILIZE EQUIPMENT AND REOPEN MORDECAI LINCOLN ROAD.

LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- 105 EXISTING CONTOUR - MAJOR
- 102 EXISTING CONTOUR - MINOR
- 102 PROPOSED CONTOUR
- EDGE OF WATER
- ANTICIPATED EDGE OF WATER
- ANTICIPATED CENTERLINE OF WATER
- POTENTIAL ALTERNATIVE CENTERLINES
- WETLAND LIMIT
- EXISTING RETAINING WALL
- EXISTING GUIDE RAIL
- EXISTING FENCE
- STM EXISTING STORM SEWER
- LIMIT OF DISTURBANCE
- HIGH VISIBILITY FENCE
- SF SILT FENCE
- CONSTRUCTION ACCESS
- STOCKPILE
- W PROPOSED WATERMAIN
- PROPOSED SLIP LINING
- PROPOSED CONCRETE REPAIR

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12/2/2016	REVISED PER USACE COMMENTS
11/9/2016	REVISED PER CLIENT COMMENTS
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REVISIONS

GEOFFREY M. GOLL
Professional Engineer
MA Lic. No. 48283
DATE

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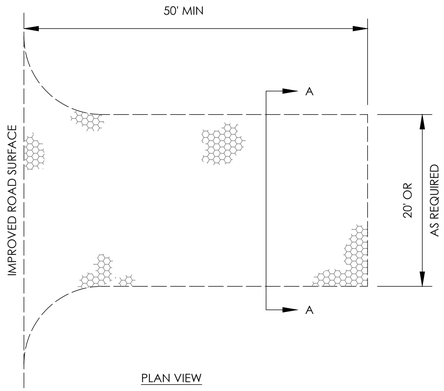
WWW.PRINCETONHYDRO.COM

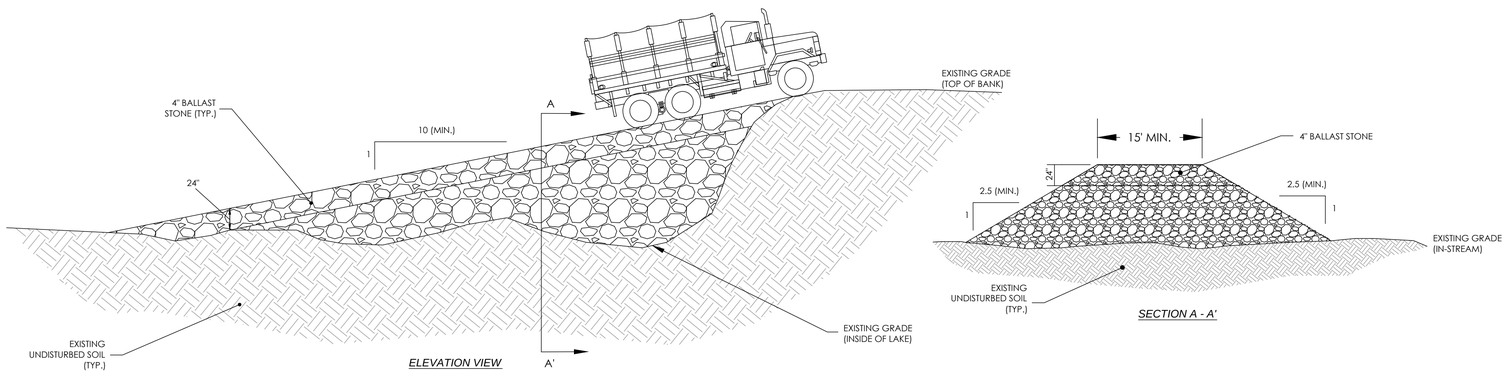
PROJECT NAME/LOCATION:
HUNTERS POND DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

DRAWING NAME:
CONSTRUCTION, EROSION & SEDIMENTATION CONTROL PLAN

DATE:	12/2/2016
PROJECT NO.:	1142.011
SCALE:	AS SHOWN
DRAWN BY:	PMW / DTK / STB
CHECKED BY:	LASW

SHEET NO.
6 OF 9



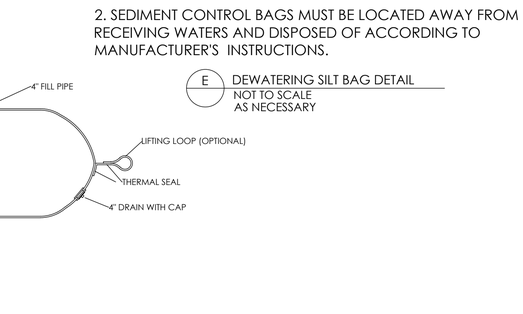


B ROCK ACCESS RAMP
NOT TO SCALE

SEE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDANCE FOR ADDITIONAL INFORMATION.

- ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON THE SITE FOR THIS PURPOSE.
- AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.
- RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2:1, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FT FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES SHALL BE SUBSTITUTED FOR THE PIPE.
- REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY PRACTICES ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
-THIS ITEM MAY NOT BE NEEDED SINCE THE MAJORITY OF THE WORK WILL BE COMPLETED FROM THE PAVED ROAD SURFACED. IF EQUIPMENT LEAVES THE PAVED SURFACE THIS WILL BE REQUIRED.

A CONSTRUCTION ENTRANCE
NOT TO SCALE



C HIGH VISIBILITY FENCING
PERIMETER FENCING
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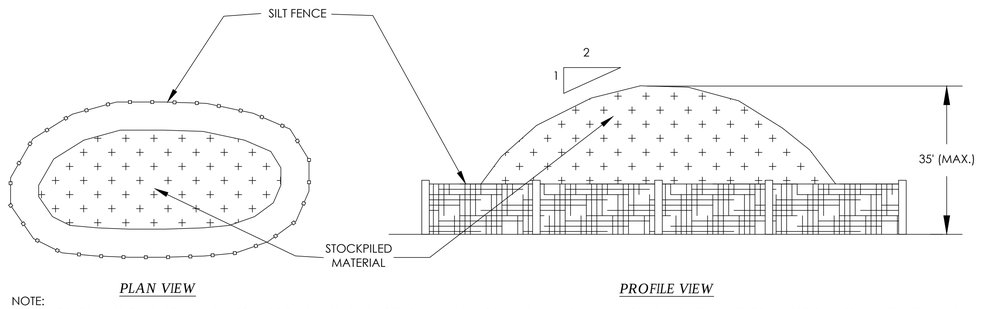
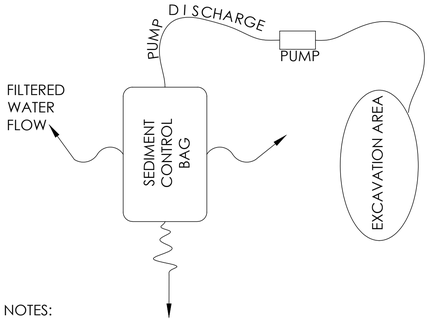


NOTE:
SILT FENCE, OR APPROVED EQUIVALENT FOR USE ON PAVED SURFACES, SHALL BE PLACED AND MAINTAINED AROUND THE PERIMETER OF ALL STOCKPILES. IMMEDIATELY APPLY TEMPORARY SEEDING TO ALL SOIL STOCKPILES.

D STOCKPILE AREA DETAIL
NOT TO SCALE

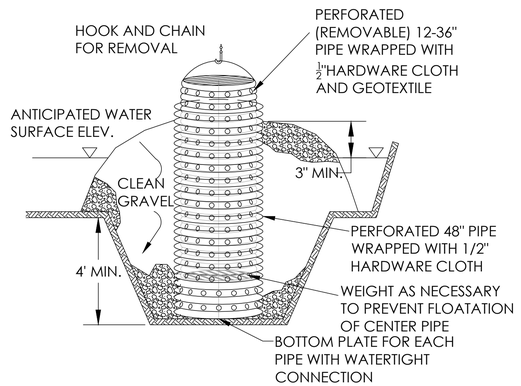


NOTES:

1. CONTAINERS SHALL BE LOCATED FOR EASE OF CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENT AND TO MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES AND PEDESTRIAN TRAFFIC. BAGS SHALL NOT BE PLACED DIRECTLY INTO RECEIVING WATERS.

2. SEDIMENT CONTROL BAGS MUST BE LOCATED AWAY FROM RECEIVING WATERS AND DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

E DEWATERING SILT BAG DETAIL
NOT TO SCALE
AS NECESSARY



NOTES:
1. THE OUTER PIPE SHALL BE 48" DIAMETER OR SHALL, IN ANY CASE, BE AT LEAST 4" GREATER IN DIAMETER THAN THE CENTER PIPE. THE OUTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH TO PREVENT BACKFILL MATERIAL FROM ENTERING THE PERFORATIONS.

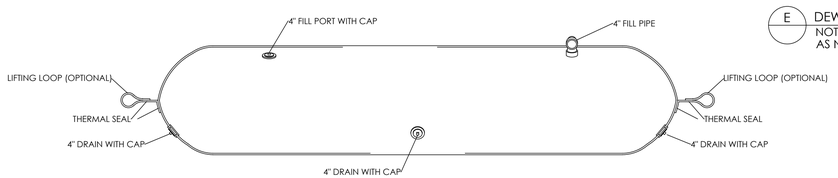
2. AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 2" AGGREGATE OR CLEAN GRAVEL

3. THE INSIDE STAND PIPE (CENTER PIPE) SHALL BE CONSTRUCTED BY PERFORATING A CORRUGATED OR PVC PIPE BETWEEN 12" AND 36" IN DIAMETER. THE PERFORATIONS SHALL BE 1/2" x 6" SLITS OR 1" DIAMETER HOLES 6" ON CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH FIRST, THEN WRAPPED AGAIN WITH GEOTEXTILE CLASS E.

4. THE CENTER PIPE SHALL EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DEWATERING A BASIN.

5. UPON PRIOR APPROVAL FROM ENGINEER, ALTERNATIVE METHODS OF DEWATERING SUCH AS DEWATERING WELL POINTS SHALL BE USED.

F DEWATERING PUMP DETAIL
NOT TO SCALE
AS NECESSARY



G COFFER DAM
NOT TO SCALE
AQUA DAM 4-FT BY 9-FT OR EQUIVALENT

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PROJECT NAME/LOCATION:
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A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

DRAWING NAME:
CONSTRUCTION DETAILS

DATE:	11/30/2016
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SCALE:	NOT TO SCALE
DRAWN BY:	AEM / DTK / STB
CHECKED BY:	LASW / PMW

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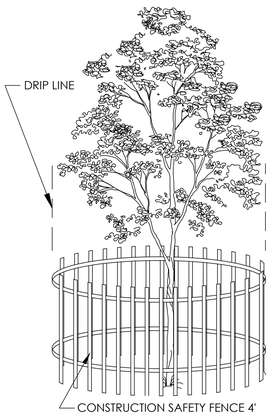
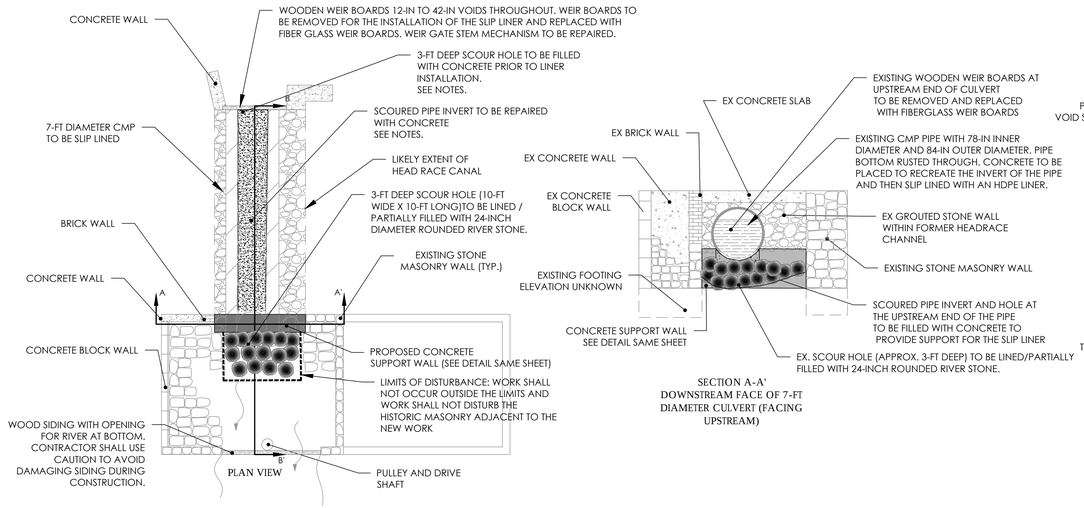


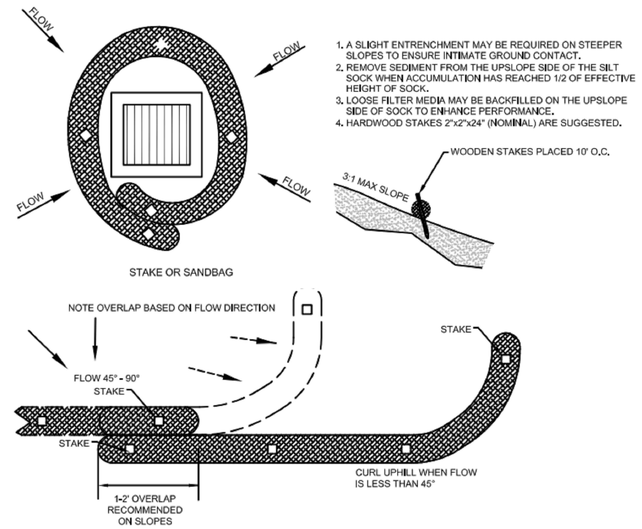
NOTES:
1. TO PREVENT GENERAL MECHANICAL DAMAGE TO TREES INSTALL TREE PROTECTION AS INDICATED IN DETAIL.
2. BOX TREES WITHIN 25 FEET OF BUILDINGS SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHALL BE INSTALLED AT THE DRIP LINE OF THE TREE BRANCHES OR BEYOND. TREE ROOT SYSTEMS COMMONLY EXTEND WELL BEYOND THE DRIP LINE.
3. BOARDS SHALL NOT BE NAILED TO TREES DURING CONSTRUCTION.
4. FEEDER ROOTS SHALL NOT NE CUT IN AN AREA INSIDE THE DRIP LINE OF THE TREE BRANCHES.
5. DAMAGED TRUNKS OR EXPOSED ROOTS SHALL HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHALL BE COVERED WITH TOPSOIL IMMEDIATELY AFTER EXCAVATION IS COMPLETE. ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHALL BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHALL BE PRESCRIBED BY A PROFESSIONAL FORESTER OR CERTIFIED TREE EXPERT.

G TREE PROTECTION DETAIL
NOT TO SCALE

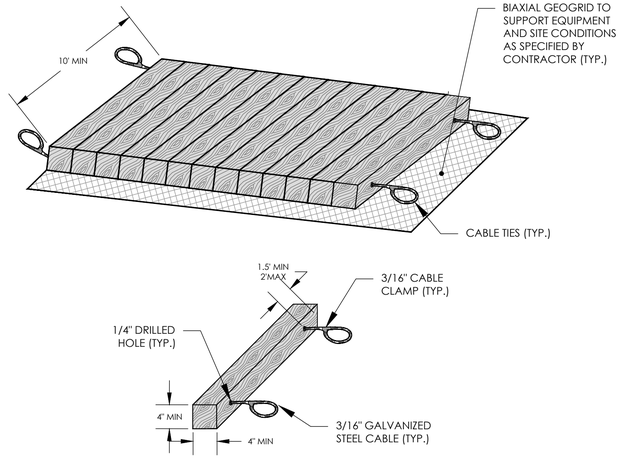


SLIP LINING NOTES:
1. EXISTING WOODEN WEIR BOARDS TO BE REMOVED TO EXPOSE THE ENTIRE DIAMETER OF THE PIPE TO BE SLIP LINED. AT THE CONCLUSION OF THE PROJECT FIBERGLASS WEIR BOARDS SHALL BE REINSTALLED TO AN ELEVATION OF 10.57'.
2. THE DOWNSTREAM FACE OF THE PIPE AND MASONRY WALL SHALL BE STABILIZED WITH A CONCRETE SUPPORT WALL. SEE DETAILS AND NOTES ON SAME SHEET.
3. THE INVERT OF THE PIPE SHALL BE REPAIRED VIA THE INSTALLATION OF 5,000 PSI AIR ENTRAINED CONCRETE TO FILL ALL THE VOIDS AND RECREATE THE BOTTOM THE PIPE. THE CONCRETE SHALL HAVE A SCARIFIED SURFACE. ANY LOOSE ROCK AND SOIL MATERIAL SHALL BE REMOVED PRIOR TO THE CONCRETE INSTALLATION TO A DEPTH OF APPROXIMATELY 12 INCHES BELOW THE EXISTING INVERT OF THE PIPE.
4. THE UPSTREAM SCOUR HOLE SHALL BE FILLED WITH CONCRETE IN A SIMILAR MANOR AS THE PIPE INVERT.
5. PRIOR TO ORDERING THE HDPE SLIP LINER A TEST FIT SECTION SHALL BE OBTAINED AND USED TO DETERMINE THE ACTUAL SIZE NEEDED.
6. SLIP LINING WORK SHALL BE UNDER TAKEN IN SUCH A MANNER SO AS NOT TO DISTURB THE ADJACENT GROUND SURFACES OR STONE MASONRY RELATING TO THE HISTORIC MILL CULVERT / RACEWAY.
7. PROPOSED SLOPE TO BE SLIGHTLY POSITIVE AS ALLOWED BY FIELD CONDITIONS.

H SLIP LINING AND SUPPORT DETAIL
EXISTING 7' CMP
NOT TO SCALE

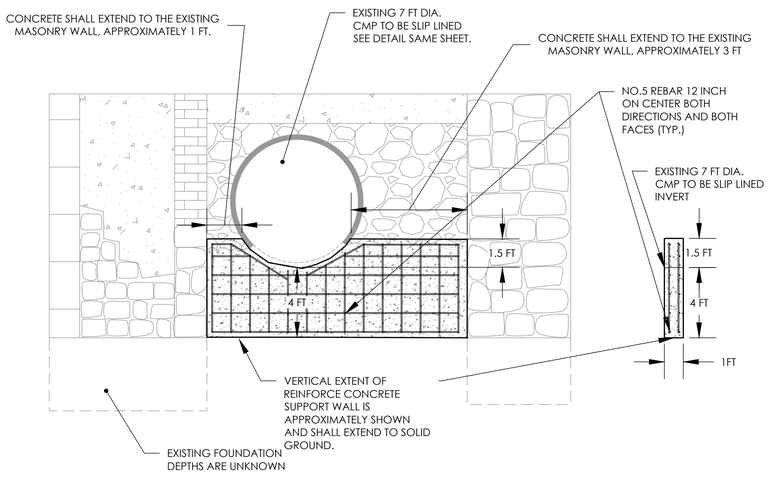


I SILT SOCK OR EQUIVALENT
NOT TO SCALE



NOTES:
1. TIMBER MAT OR APPROVED EQUIVALENT MAY BE USED.
2. DESIGN OF MATTING AND GEOGRID SUPPORT SYSTEM WILL VARY DEPENDING ON EQUIPMENT AND SITE CONDITIONS. CONTRACTOR SHALL SUBMIT A SUPPORT SYSTEM DESIGN TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO IMPLEMENTATION.
3. BIAXIAL GEOGRID SHALL BE INSTALLED BENEATH THE TIMBER MATS ALONG THE ENTIRE LENGTH OF THE TRACKING AREA.
4. THE PLANKS SHALL BE CANTS (NON-PRESSURE TREATED WOOD), SAWN DENSE HARDWOODS, OR ROUND LOGS CABLED TOGETHER AS SHOWN.
5. CABLE TIES SHALL BE USED TO PLACE AND REMOVE THE MATS. ONCE IN PLACE THE TIES SHALL BE TUCKED BENEATH THE MAT TO AVOID GETTING CAUGHT BY VEHICLES.
6. IF VEHICLES NEED MORE TRACTION THE USE OF EXPANDED METAL GRATING MAY BE PLACED ON TOP OF THE MATS.

J TIMBER MAT ACCESS
NOT TO SCALE
AS NECESSARY



CONCRETE SUPPORT WALL NOTES:
1. CONCRETE TO BE PLACED SHALL BE 5,000 PSI AIR ENTRAINED CONCRETE.
2. ALL REBAR SHALL BE EPOXY COATED WITH A MINIMUM OF 3 INCHES OF COVER.
3. ANY LOOSE ROCK AT THE BASE SHALL BE REMOVED AND REUSED FOR THE SCOUR PROTECTION DOWNSTREAM OF THE SUPPORT WALL.
4. EXISTING SUBSTRATE SHALL BE REMOVED TO CREATE A FLAT BOTTOM FOR THE WALL AND BASE FOR FORMS.
5. VERTICAL EXTENT OF REINFORCE CONCRETE SUPPORT WALL IS APPROXIMATELY SHOWN AND SHALL EXTEND TO SOLID GROUND.
6. SLIP LINER SHALL BE GROUTED IN PLACE WITH 750 LBS PER YARD PORTLAND CEMENT, 360 LBS PER YARD WATER, AND RHEOCELL 30 AT 12 FLUID OUNCES PER YARD. THE GROUT MIX DESIGN AT 55 TO 60 POUNDS PER CUBIC FOOT WILL PRODUCE MINIMUM 500 POUND COMPRESSIVE STRENGTH AT 28 DAYS.

K DOWNSTREAM SUPPORT WALL
UPSTREAM VIEW FROM DETAIL H: A-A'
NOT TO SCALE

CALL BEFORE YOU DIG!
MASSACHUSETTS LAW REQUIRES
3 WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION - STOP CALL
REFERENCE 220 CMR 99.00
AND GL C. 82 SEC. 40-40E
DIG SAFE SYSTEM, INC.
1-888-344-7233

PROJECT NOTES

1. BASE AERIAL TOPOGRAPHY AND SITE FEATURES OBTAINED FROM GM2 ASSOCIATES, INC., IN DIGITAL FORMAT, APRIL 2013, ADDITIONAL BATHYMETRIC SURVEY OF HUNTERS POND COMPLETED NOVEMBER 2014.
2. SUPPLEMENTAL LIDAR TOPOGRAPHIC DATA OBTAINED FROM MASSGIS, MASS.GOV.
3. DATA REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83), STATE PLANE MASSACHUSETTS, FEET. VERTICAL DATUM NORTH AMERICAN VERTICAL DATUM OF 1988, FEET.
4. RESOURCE DELINEATION / IDENTIFICATION COMPLETED BY WETLAND STRATEGIES AND SOLUTIONS, LLC ON 04/09/2013 - 04/10/2013.
5. FEMA 100-YR FLOODPLAIN AS SHOWN ON EFFECTIVE FIRM, OBTAINED FROM DFIRM DATA.
6. MEAN HIGH WATER (MHW, ELEV. 3.98 FEET), MEAN LOW WATER (MLW, ELEV. -4.76 FEET), AND HIGH TIDE LINE (HTL, ELEV. 6.37 FEET) OBTAINED FROM NOAA TIDE STATION 8443970, BOSTON, MA AND CONVERTED, AS PER THE 2014 USACE REPORT ENTITLED "MUSQUASHCUT POND TIDAL FLUSHING STUDY, SCITUATE, MASSACHUSETTS", WHICH USED "NOS-SUPPLIED CONVERSIONS TO ACCOUNT FOR KNOWN COHASSET HARBOR CHARACTERISTICS (I.E. ALL TIDE STAGES AT BOSTON WERE MULTIPLIED BY 0.92 TO GET THE REDUCED RANGE EXPECTED AT COHASSET HARBOR AT WHITEHEAD)". HTL ASSUMED EQUIVALENT TO HIGHEST ASTRONOMICAL TIDE (HAT).
7. WATER MAIN RELOCATION PLAN AND DETAILS PROVIDED BY WESTON & SAMPSON, IN COORDINATION WITH INPUT FROM THE TOWN OF SCITUATE.

DATE	DESCRIPTION
3/1/2017	REVISED PER PERMIT CONDITIONS
1/5/2017	REVISED PER REGULATORY COMMENTS
11/30/2016	REVISED PER USACE COMMENTS
11/9/2016	REVISED PER CLIENT COMMENTS
6/24/2016	REVISED PER CLIENT COMMENTS

REVISIONS

GEOFFREY M. GOLL
Professional Engineer
MA Lic. No. 48283
DATE

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P.O. BOX 720
RINGOES, NEW JERSEY 08551
PHONE. 908.237.5660
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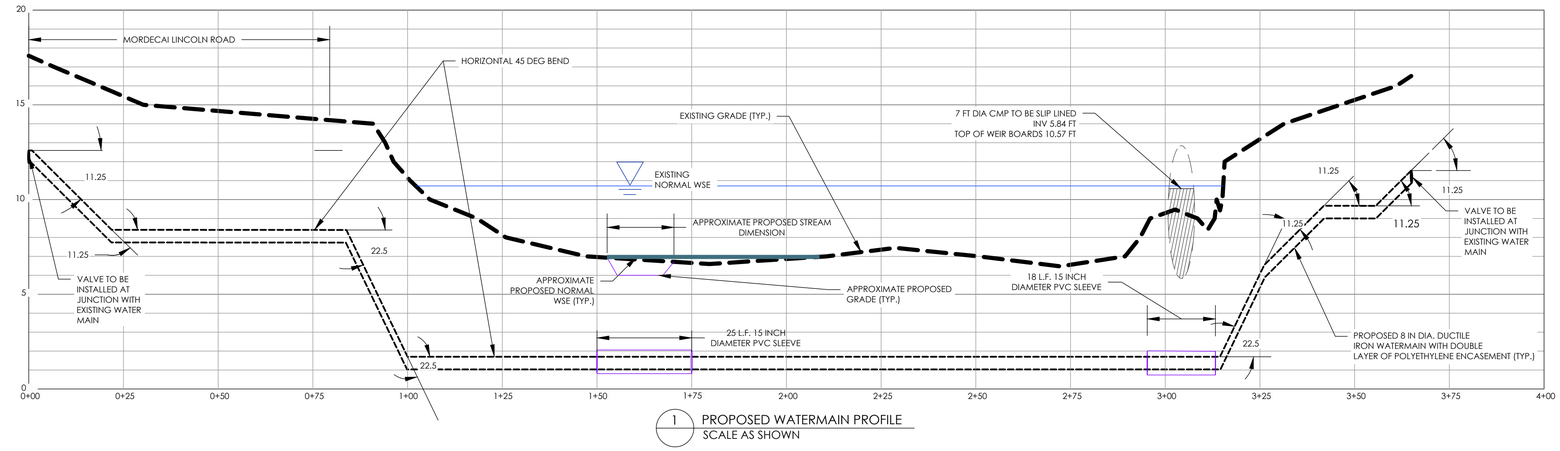
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
HUNTERS POND DAM REMOVAL
A.K.A. MORDECAI LINCOLN ROAD DAM
TOWN OF SCITUATE
PLYMOUTH COUNTY, MASSACHUSETTS

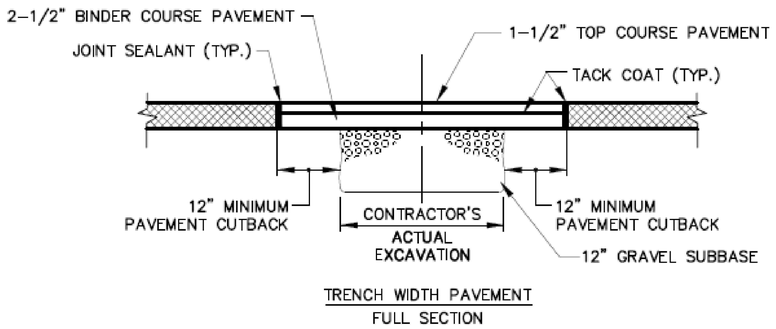
DRAWING NAME:
CONSTRUCTION DETAILS

DATE:	11/30/2016
PROJECT NO.:	1142.011
SCALE:	NOT TO SCALE
DRAWN BY:	AEM / DTK / STB
CHECKED BY:	LASW / PMW

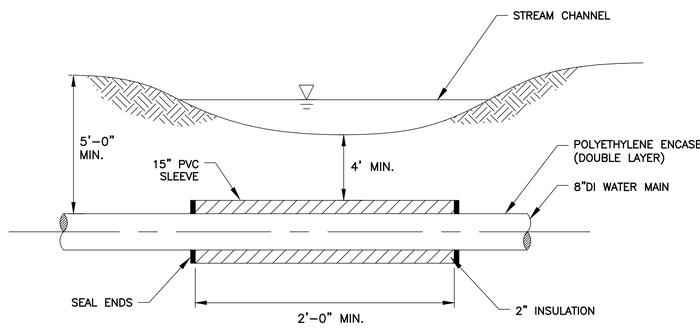
SHEET NO.
8 OF 9



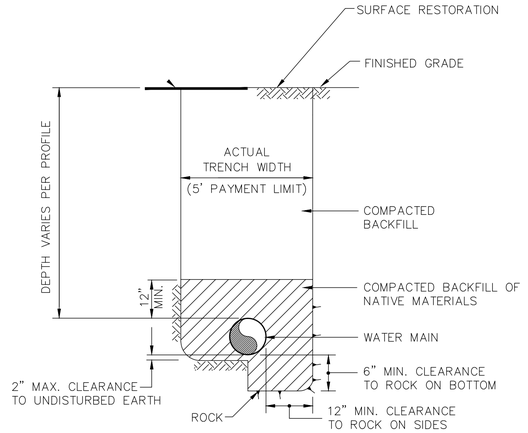
1 PROPOSED WATERMAIN PROFILE
SCALE AS SHOWN



A PAVEMENT REPLACEMENT DETAIL
NOT TO SCALE



B WATERMAIN SLEEVE DETAIL
NOT TO SCALE



D WATERMAIN TRENCH DETAILS
NOT TO SCALE

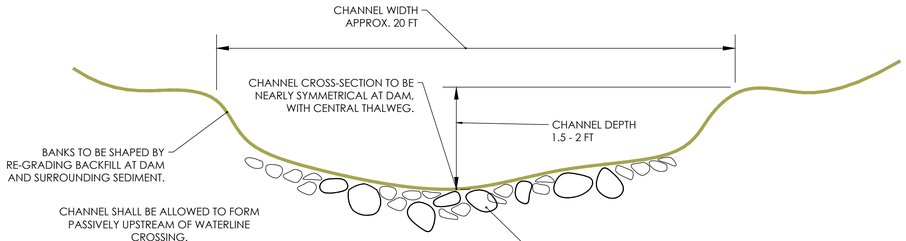
REQUIRED LENGTH OF RESTRAINED JOINTS FROM FITTINGS (FEET)

PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2° BEND	11 1/4° BEND	PLUG, CAP OR IN-LINE VALVE	TEE (BRANCH)
8"	33 (40)	13.5 (16.5)	6.5 (8)	3 (4)	55 (82)	47 (70)

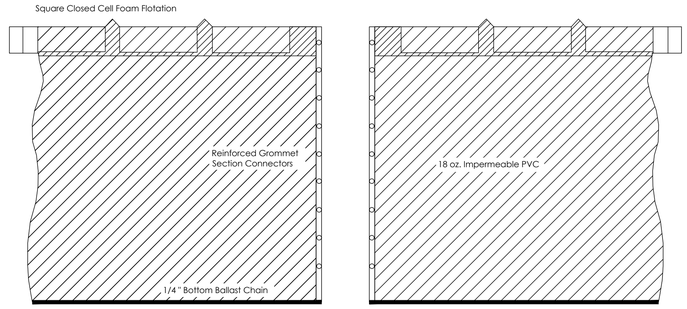
NOTES:

1. RESTRAINED LENGTHS LISTED IN PARENTHESES ARE FOR PIPE WRAPPED IN POLYETHYLENE. THE OTHER ASSOCIATED LENGTHS ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.
2. THE CONTRACTOR SHALL USE THIS TABLE IN CONJUNCTION WITH THE APPROPRIATE PIPE SPECIFICATION SECTION.

C RESTRAINED JOINT FITTINGS
NOT TO SCALE



E STREAM CHANNEL DETAIL
NOT TO SCALE



F TYPE 1 DOT TURBIDITY BARRIER DETAIL
NOT TO SCALE
(FROM GRANITE ENVIRONMENTAL)

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12/1/2016	REVISED PER USACE COMMENTS
11/9/2016	REVISED PER CLIENT COMMENTS
5/20/2016	REVISED PER CLIENT COMMENTS

REVISIONS

GEOFFREY M. GOLL
Professional Engineer
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PLYMOUTH COUNTY, MASSACHUSETTS

DRAWING NAME:
WATERMAIN PROFILE AND DETAILS

DATE:	12/1/2016
PROJECT NO.:	1142.011
SCALE:	AS SHOWN
DRAWN BY:	AEM / STB
CHECKED BY:	LASW / PMW

SHEET NO.
9 OF 9